

ADDITIONS TO THE FAUNA OF LORD HOWE ISLAND.

BY J. DOUGLAS OGILBY.

The following additions to the ichthyological fauna of the island are the result of an examination of two small but highly interesting collections, the one obtained personally by James Brodie, Esq., the Visiting Magistrate, consisting of six species, and kindly lent to me for the purposes of this paper, the other of fifteen species, made for the writer by Mr. Walter King.

The additions made in this communication include no less than three new genera, namely, (1) *Howella*, a most interesting berycoid fish, the aberrant characters of which have determined the author in establishing for its reception a distinct family allied to the *Holocentridæ* and perhaps in some degree to the *Monocentridæ*; (2) *Machærope*, a gempylid, also of special interest as being apparently a near ally of Johnson's rare *Neulotus*; and (3) *Diancistrus*, a brotulid, closely allied to *Dinematichthys*, but with a much stronger dentition.

The new species proposed number five, viz.:—*Howella brodiei*, *Machærope latispinis*, *Salarias insula*, *Salarias alboapicalis*, and *Diancistrus longifilis*; a full description is also given of a small *Monacanthus*, hitherto identified with Hollard's *Monacanthus nitens*, but exhibiting certain differential characters which may necessitate its elevation to specific rank, in which case the name *alternans* is proposed for it. A young balistid is also described.

The remaining additions are as follows:—*Prionace glauca*, *Hippocampus punctulatus* (also an addition to the Australasian fauna), ? *Canthidermis* sp., *Malacanthus hoedtii* (also new to Australasia), and *Lotella callurias*.

The other species included in the collections are:—*Gonorrhynchus greyi*, *Trachypoma macracanthus*, *Epinephelus merra*, *Apogon norfolcensis*, *Parma polylepis*, *Pseudolabrus luculentus*, *Coris semicincta*, *Salarias quadricornis*, and *Scorpena scabra*.

In the earliest list of the fishes of Lord Howe Island* five genera were recorded the species of which were indeterminable, namely:—*Pseudoscarus*, *Balistes*, *Gobioides*, *Petroscirtes* and *Lotella*. It is satisfactory to me to be able to announce that two of these can now be supplied with specific names, the *Petroscirtes* having been described by me as *P. icelii*,† while the *Lotella* is here identified with the Australian *L. callarias*. We are still in the dark, however, as to what species of *Pseudoscarus*, *Balistes* and *Gobioides* occur in the seas of the island, and to these I am unfortunately compelled to add a species of *Canthidermis* which from its small size I am unable to determine satisfactorily. Of course this may be the young of the species upon the evidence of whose upper jaw the presence of a balistid was recorded in 1889; I have also a note of an undetermined species of *Ophisurus* and one also of *Plagusia*. There is also in this collection a scopelid in too bad condition to be recognisable.

The present additions bring the number of species recorded as inhabiting or visiting the shores of the island up to 113, with 7 (or 6) unidentified forms; doubtless if an expert were to spend a few weeks there this number could be largely increased, since many families which should be common are at present represented by few or no species. As it is the list, as it now stands, needs careful revision, but I hope within the next few months to be in a position to lay before the Society a thoroughly revised and enlarged catalogue of the fish-fauna of the island.

The resemblance between Maderia and Lord Howe Island which has been noticed by many authors and which was strengthened by the discovery of a species of *Tetragonurus*‡ some thirteen years ago now receives additional confirmation in the discovery of a genus allied to *Nealotus*, Johnson, a fish so rare

* "Lord Howe Island: its Zoology, Geology, and Physical Characters" (Aust. Mus. Mem. No. 2), Fish. pp. 52 to 74 incl., by J. Douglas Ogilby, 1889.

† Proc. Linn. Soc. N.S. Wales, xix. 1894, p. 370.

‡ Macleay, Proc. Linn. Soc. N.S. Wales, x. 1886, p. 718 (as *Ctenodax wilkinsoni*) and l.c. xi. 1886, p. 511; Ogilby, l.c. xiii. 1888, p. 9.

that though described thirty-three years ago the original type is still unique, if we except a small example dredged by the "Challenger" in the North Atlantic and supposed to belong to Johnson's species.

Appended are notes and descriptions of the species new to the island :—

GALEIDÆ.

PRIONACE GLAUCA (Linnaeus).

During Mr. Brodie's last visit he captured a large female Blue Shark from which he saw no less than 46 living young taken; a few of these he secured and preserved, and on his return kindly presented a pair to me, so that I am enabled to satisfactorily identify the genus, of which but one cosmopolitan species is recognised. This shark is said by Johnston to be common in Tasmania, and the British Museum possesses "numerous fœtus" from Port Arthur. Tenison-Woods included it in his list of New South Wales fishes, but gives no authority for the statement, which has not since been verified. I had never seen an example until Mr. Brodie showed these now under consideration to me, and it is not included in Lucas' list of Victorian fishes, which facts seem to prove that it is only locally "common" in Tasmania.

SYNGNATHIDÆ.

HIPPOCAMPHUS PUNCTULATUS, Guichenot.

There is a single specimen of this widely distributed "Sea-Horse" in the collection forwarded to me by Mr. King; it measures 240 millimeters. Jordan and Evermann* remark in reference to the Pacific form described by Bleeker as *Hippocampus kuda*† that "this East Indian species will probably be found different," but I cannot detect the slightest variation between their description and my specimen. This fish is now for the first

* Fishes of North and Middle America, i. p. 778.

† Nat. Tijdschr. Nederl. Ind. iii. 1852, p. 82.

time recorded from Australasian seas; it had, however, previously been recorded from many parts of the Malay Archipelago, if we follow Günther in identifying Bleeker's species with it.

HOWELLIDÆ, fam. nov.

Body oblong, compressed, covered with strongly ctenoid, adherent scales. Lateral line present, interrupted. Head entirely scaly. Mouth with rather large oblique cleft. Pre-maxillaries protractile; maxillary large, with supplemental bone. Dentition feeble. Nostrils separate, the posterior trenching upon the orbital ring. Eyes lateral, large. Preorbital of moderate width. Opercle, interopercle, and subopercle spinigerous. Gills four, a slit behind the fourth; four branchiostegals; no barbels. Two separate dorsals, the spinous not depressible in a scaly groove; anal with three spines; ventrals thoracic, with five soft rays; pectorals elongate; caudals deeply forked, with sharp basal fulera above and below. Colouration dark.

Omitting the barbuliferous families *Polymixiide* and *Mullide*, which do not appear to bear any close relationship to the true berycids there are still left three families—*Monocentride*, *Anomalopide* and *Holocentride*—in which the dorsal fin is wholly divided or deeply notched. To these must now be added the *Howellide*.

The following analysis will serve to distinguish the families:—

a. Head with luminous glands,

b. Luminous glands on the lips, immobile: scales large and coarse; eight branchiostegals; dorsal spines strong, more or less isolated; ventral rays rudimentary, 2 to 4.

MONOCENTRIDÆ.

bb. Luminous glands below the eyes, mobile; scales small; seven branchiostegals; dorsal spines weak, connected; ventral rays normal, 5.

ANOMALOPIDÆ.

aa. Head without luminous glands.

c. Lateral line continuous; jaws, vomer and palatines toothed; eight branchiostegals; dorsal fin continuous, deeply notched; four anal spines; seven soft rays in the ventral.

HOLOCENTRIDÆ.

cc. Lateral line interrupted; jaws with a single series of minute teeth; four branchiostegals; dorsal fins widely separated; three anal spines; five soft rays in the ventral.

HOWELLIDÆ.

It is plain that in face of such important differences as these I had no option but to establish a separate family for the reception of *Howella*.

HOWELLA, gen. nov.

Scales moderate, smooth except at the base, where there are several series of short, crescentic striae, the middle denticulations enlarged and spine-like. Lateral line doubly interrupted, the tube simple and linear, occupying the entire exposed portion of the scale. Head rather large, with short blunt snout. Jaws equal. Maxillary exposed, scaly. Jaws with a single series of minute teeth; vomer, palatines, pterygoids, and tongue toothless. Preopercle feebly serrated; opercle with two basally adnate spines; a very strong spine on the subopercle and a weaker at the posterior angle of the interopercle. Gill-openings wide; gill-membranes separate, free from the isthmus; pseudobranchiae present; gill-rakers well developed, compressed, lanceolate, smooth, in moderate number. Dorsal fins with viii, i 8 rays, the spinous longer than the soft; anal short, with iii 6 rays, the third spine the longest; all the dorsal and anal spines very strong; soft dorsal and anal covered nearly to the tip with large, thin scales; ventrals inserted below the base of the pectorals, close together, with a strong spine; pectorals pointed, with 15 rays, the middle the longest.

Ety m o l o g y.—Named for the island where the specimen was obtained.

D i s t r i b u t i o n.—Lord Howe Island.

HOWELLA BRODIEI, sp.nov.

D. viii, i 8. A. iii 6. L. lat. 37 (1 + 8 + 28). L. tr. $\frac{2}{7}$.

Dorsal profile more convex than the ventral. Lateral line interrupted above the base of the pectoral and again slightly in advance of the second dorsal. Depth of body $3\frac{1}{2}$, length of head $2\frac{7}{8}$ in the total length; width of head $2\frac{2}{5}$ in its length. Diameter of eye $2\frac{5}{8}$, length of snout 4 in the head. Interorbital region gently convex, its width $3\frac{3}{4}$ in the head. Maxillary extending to the vertical from the anterior border of the eye, its length from the tip of the snout rather more than $\frac{1}{2}$ of the head, its width at the distal extremity $\frac{2}{7}$ of the diameter of the eye. Border of preopercle partly hidden by overlapping scales, with a few feeble serræ above the angle; upper opercular spine the longer; subopercular spine the longest and strongest, its free portion $\frac{1}{3}$ of the eye. Gill-rakers 6 + 21, the longest $\frac{2}{3}$ of the eye. Dorsal fin originating behind the base of the pectoral, its distance from the tip of the snout $2\frac{2}{5}$ in the total length; first spine short, $\frac{2}{9}$ of the second, fourth longest, $\frac{1}{2}$ of the head; first to sixth spines with their bases approximate, the two last well separated; spine of second dorsal as long as the rays, $2\frac{2}{5}$ in the head; interdorsal space as long as the second dorsal; anal originating behind the second dorsal and midway between the opercle and the caudal fin; first spine short, third equal to the spine of the soft dorsal but a little shorter than the rays: ventral spine subequal to the longest dorsal spine, not so long as the outer ray, which is $\frac{1}{4}$ of the length of the head and $\frac{5}{7}$ of the distance between its origin and the vent: eighth and ninth pectoral rays the longest, reaching to the end of the base of the anal and $\frac{2}{5}$ of the total length: middle caudal rays $\frac{3}{7}$ of the outer, which are $3\frac{2}{5}$ in the total length; caudal peduncle long, its least depth $2\frac{1}{5}$ in its length behind the dorsal, which equals the depth of the body. Shining purplish-black, the sides of the head and base of the pectoral with a silvery lustre; fins somewhat lighter.

Described from a single specimen forwarded by Mr. King and measuring 79 millimeters over all; it is in almost perfect condition, though evidently picked up dead on the beach.

I am pleased to have this opportunity of naming so interesting a species for my friend James Adam Brodie, Esq., Visiting Magistrate of Lord Howe Island, who has been indefatigable in his endeavours to assist me in elucidating the ichthyological fauna of this lonely oceanic islet.

GEMPYLIDÆ.

MACHÆROPE, gen.nov.

Body elongate, strongly compressed, the ventral profile sub-cultrate. Scales moderate, delicate, concentrically striated, deciduous or few and scattered (as in *Nealotus*). Lateral line obsolete. Head large, the snout moderate and acute. Mouth with wide, oblique cleft. Lower jaw projecting. Premaxillaries not protractile; maxillary exposed. Jaws with a series of acute, compressed, distant teeth; anterior premaxillary teeth greatly enlarged, fang-like; palatines with a series of small, recurved teeth; vomer, pterygoids, and tongue smooth. Nostrils separate, situated in a groove. Eyes large, lateral, round. Opercle deeply notched, the lower limbs forming a broad spine-like point. Gill-openings wide; gill-membranes separate, free from the isthmus; gills four, a slit behind the fourth; seven branchiostegals; pseudo-branchiæ present; gill-rakers small, distant, acute, unequal, a single enlarged one at the angle. Two separate dorsal fins, with xx, i 17 rays, the first originating above the middle of the opercle; anal similar to the soft dorsal, with i 14 rays; two dorsal and two anal finlets; a strong, transversely compressed, grooved spine behind the vent; ventrals inserted below the base of the pectorals, close together, reduced to a single strong spine, provided with an obliquely striated, keel-like expansion on its outer border; pectorals pointed, with 13 rays, the upper the longer; caudal forked, the peduncle without keel. Upper surface of head with a low frontal and occipital crest, the former bifurcated posteriorly, and with two pairs of stronger lateral ridges, the inner pair extending forwards to the premaxillary processes.

Etymology:—μάχαρα, a dagger or knife; ὀπή, opening or vent: in reference to the strong dagger-like spine behind the anal orifice.

Distribution:—Lord Howe Island.

From *Nealotus* this genus may at once be distinguished by its strong thyrsoitoid dentition, from *Promethichthys* by the presence of the spine behind the vent, from all the other *Gempylidae* (the unmistakable *Gempylus* excepted) by the constitution of the ventral fins.

MACHLEROPE LATISPINIS, sp. nov.

D. xx, i 17 ii. A. i 14 ii.

Depth of body $8\frac{2}{3}$, length of head 4 in the total length; width of body $\frac{2}{3}$ of its depth. Diameter of eye $\frac{1}{4}$ of the length of the head and $\frac{2}{3}$ of that of the snout, which is $\frac{2}{3}$ of the distance between its extremity and the origin of the spinous dorsal. Interorbital region concave, its width $5\frac{1}{2}$ in the length of the head. Maxillary extending to the vertical from the anterior third of the eye, mandible not quite to the posterior border; length of the former from the tip of the snout $2\frac{1}{3}$ in the head, its width at the distal extremity $\frac{3}{8}$ of the diameter of the eye; length of mandible $\frac{5}{8}$ of the head. Premaxillaries with three pairs of curved canines anteriorly, mandible with one pair much smaller and lanceolate; 11 lateral teeth on each ramus of the upper jaw, 8 to 11 on the lower. Anterior nostril smaller than the posterior, which is oval and subvertical, its distance from the eye $\frac{2}{5}$ of a diameter of the eye. Opercle with feeble radiating striæ and numerous minute shallow pits. Outer border of spinous dorsal sinuous, the fifth and tenth spines the longest and subequal, $3\frac{1}{4}$ in the length of the head, but scarcely as long as the anterior rays; last spine $3\frac{1}{5}$ in the longest: anal commencing beneath the origin of the soft dorsal, its distance from the vent $\frac{3}{4}$ of the diameter of the eye; posterior dorsal and anal finlet the longer: ventral spine a little longer than the postanal, $\frac{2}{3}$ of the eye: pectoral with 13 rays, originating below the second and ending below the seventh dorsal spine, its length $\frac{1}{2}$ of the head: middle caudal rays $\frac{4}{7}$ of the outer, which are $\frac{1}{6}$ of the total length; least depth of caudal peduncle $\frac{5}{8}$ of its length behind the dorsal finlets and $\frac{1}{3}$ of the depth of the body. Metallic blue, darkest above: fins lighter.

E t y m o l o g y:—*latus*, wide; *spina*, spine: the two ventral and the postanal spine being strongly compressed.

D i s t r i b u t i o n:—Lord Howe Island.

Mr. King's collection contains a single specimen, 155 millimeters in length, of this interesting fish.

BALISTIDÆ.

Among the specimens collected for me by Mr. King is a young balistid, 50 millimeters in length, which appears to be allied to *Canthidermis maculatus*. Günther* unites all the various forms of *Canthidermis* under two headings, *Balistes maculatus* and *Balistes aureolus*, and in all the forms of *B. maculatus*, as given by him (with the exception of the one mentioned below), the second dorsal and anal rays are much higher anteriorly, especially in the adult, and this indeed is made a generic character by Bleeker; but in my example, which is of course very young, these fins are regularly convex, the middle rays being the longest, as in Holland's *Balistes brevissimus*, which Günther reduces to a synonym of *Canthidermis maculatus*. But the main reason which has determined me to refer this species to *Canthidermis* lies in the absence of the postbranchial shields, which are found in all the other genera with which I am acquainted. That the absence of these shields is not due to the immaturity of the specimen appears to be sufficiently assured by their presence and indeed strong development in a still smaller (34 millimeters) balistid—? *B. heteracanthus*, Bleeker,—from Samoa, which I have examined side by side with the Lord Howe specimen.

I append a full description of this latter fish, so that if an adult should fall into the hands of anyone conversant with our fishes it may be the more easily recognised.

? *CANTHIDERMIS* sp.

D. iii, 29. A. 26.

Body covered with rough granular scales; no caudal spines nor osseous plates behind the gill-openings. Depth of body $1\frac{3}{4}$, length

* Catal. Fish. viii. pp. 213-215.

of head $2\frac{1}{2}$ in the total length; upper profile of head rhombic. Diameter of eye $3\frac{2}{5}$ in the length of the head and $2\frac{1}{4}$ in that of the snout, which is $3\frac{5}{6}$ in the total length and $2\frac{1}{2}$ times the distance between the eye and the gill-opening. Interorbital region flat, its width $\frac{1}{2}$ of the head. Gill-openings vertical, very small, about $\frac{3}{7}$ of the diameter of the eye, and encroaching upon the base of the pectoral fin. Dorsal spine originating behind the vertical from the eye but not so far back as the gill-openings, its distance from the tip of the snout $\frac{3}{5}$ of that from the base of the caudal, coarsely granular anteriorly on its proximal half, the distal portion with two series of strong spines directed downwards, its height $\frac{5}{7}$ of the length of the head; second dorsal commencing nearer to the origin of the dorsal spine than to the base of the caudal, its rays and those of the anal rather low, with convex outer border, the anterior middle rays the longest, about $\frac{1}{4}$ of the spine: ventral spine well developed, fixed, spinulose, the free portions $\frac{3}{4}$ of the diameter of the eye: pectoral with 13 rays, a little shorter than the snout, but longer than the caudal, which is rounded; width of caudal peduncle $\frac{2}{3}$ of its least depth, which is less than its length. Pale bluish above, yellow below; upper half of body with three irregular series of round dark brown spots; caudal peduncle dark bluish-brown.

MONACANTHIDÆ.

In the official list of the fishes obtained during the visit of the Thetis to Lord Howe Island last autumn Mr. Waite records the capture of an example of *Monacanthus nitens*, and a second is now included in my collection. Günther* places this fish among the undetermined species and does not therefore describe it, and as the work in which its original describer published his diagnosis is not easily attainable by the ordinary student it will not be out of place to redescribe the species here.

* Catal. Fish. viii. p. 229.

? *MONACANTHUS NITENS*.

? *Monacanthus nitens*, Hollard, Ann. Sc. Nat. (4) ii. 1854, p. 364, pl. xiv. f. 4, Tongatabu.

Monacanthus nitens, Waite, Proc. Linn. Soc. N.S. Wales, xix. 1894, p. 224, Maroubra Bay and Thetis Report, p. 62, 1898.

D. 26-29. A. 26-28.

Scales of body indistinct, each bearing a strong conical spine, erected upon a broad base, and increasing in size posteriorly; all the fin rays spinulose; no caudal armature. Depth of body at the base of the ventral spine $1\frac{4}{5}$ to $1\frac{8}{9}$, length of head $2\frac{1}{6}$ to $2\frac{1}{4}$ in the total length; upper profile of snout concave, of interorbital region strongly convex, of interdorsal space flat. Eye high, but not encroaching on the dorsal profile, its diameter $2\frac{3}{5}$ to 3 in the length of the snout, which is $3\frac{1}{5}$ to $3\frac{2}{5}$ in the total length. Interorbital width equal to the eye. Gill-opening small, $\frac{3}{5}$ to $\frac{4}{7}$ of the eye, but little oblique, situated below the posterior border of the eye and extending downwards to opposite the upper third of the base of the pectoral fin. Dorsal spine originating above the middle of the eye, the distance between its origin and the tip of the snout $1\frac{8}{9}$ to 2 in that from the base of the caudal; the sides are armed with a series of very long, acute, widely separated barbs, directed outwards and downwards, those of one side alternating with the other; near the tip anteriorly is a double series of small alternate spines, the proximal portion being armed with several irregular series of spinules directed upwards; height of spine $1\frac{1}{9}$ to $1\frac{1}{4}$ times the length of the snout; interdorsal space $3\frac{1}{6}$ in the total length; second dorsal commencing midway between the origin of the dorsal spine and the base of the caudal, its rays and those of the anal low, with convex outer border, the anterior middle rays the longest, about $\frac{2}{7}$ of the spine: ventral spine well developed, movable, strongly spinulose, the free portion as long as or a little longer than the eye: pectoral with 14 rays, about $\frac{1}{2}$ the length of the snout: caudal rounded, $1\frac{1}{5}$ to $1\frac{1}{3}$ in the snout; depth of caudal peduncle twice its length. Dark blue-gray, with

a shining metallic gloss; snout, lower surface of head, thoracic and ventral regions lighter; fins pale yellow.

Distribution:—Tonga-tabu; Lord Howe Island; New South Wales.

Apparently this is a small species: Hollard's example measured 50 millimeters and the two from which my description is drawn up were but 48 and 45 respectively.

I am not fully satisfied as to the identity of this species with *M. nitens*; Hollard's description of the armature of the dorsal spine does not agree well with that of this fish; he describes it as being provided with three small points in front and stronger ones behind. If he had had the privilege of examining my specimens it seems scarcely possible that he could have overlooked the long, acute, *outwardly directed*, and conspicuously alternate scales. Again, he describes the armature of the scales as consisting of 'short, obtuse, compressed' spines, while in our examples these are long, acute and conical. Both my specimens have 14 pectoral rays instead of 11 or 12 as found by Hollard.

Should future research necessitate the separation of the two forms I would propose, for the Lord Howe Island and New South Wales fish, the specific name *alternans*, in allusion to the remarkable alternation of the lateral teeth on the dorsal spine.

MALACANTHIDÆ.

MALACANTHUS HOEDTHI, Günther.

A fine specimen, 282 millimeters long, is in Mr. King's collection, and is a further addition to the fauna of Australasia. The species had previously been recorded from Mauritius, New Guinea, the Louisiade Archipelago, Solomon and Sandwich Islands.

BLENNIIDÆ.

SALARIAS INSULÆ, sp. nov.

D. xiii 19. A. 21.

Depth of body $3\frac{4}{5}$, length of head $4\frac{2}{3}$ in the total length; width of head $\frac{5}{8}$, depth of head $\frac{6}{7}$ of its length. Snout subvertical,

convex anteriorly, its length $1\frac{1}{3}$ times the diameter of the eye, which is $3\frac{2}{5}$ in the length of the head. Interorbital region flat, its width $\frac{2}{5}$ of the eye and $8\frac{3}{4}$ in the head. Cleft of mouth extending to the vertical from the hind margin of the eye. A short multifid nasal tentacle; orbital and nuchal tentacles simple. Dorsal fin originating in advance of the base of the pectoral; fifth spine longest, $1\frac{1}{3}$ in the head and not quite so high as the middle rays: anal originating below the first dorsal ray: inner ventral ray the longer, $\frac{3}{4}$ of the head and $\frac{1}{2}$ the distance between its origin and the anal: pectoral with 14 rays, the 10th and 11th the longest, reaching to the vertical from the vent, and a little longer than the head: caudal fin subtruncate, $4\frac{1}{2}$ in the total length; caudal peduncle deep, $1\frac{1}{2}$ times its length behind the dorsal fin, and $\frac{1}{3}$ of the depth of the body. Dark olive-green, nearly black, above, becoming lighter below, where it is densely powdered with darker specks.

Etymology:—*insula*, of the island, *i.e.*, Lord Howe.

Distribution:—Lord Howe Island, a single example, 65 millimeters in length.

SALARIAS ALBOAPICALIS, sp. nov.

Salarias variolosus (not Cuvier & Valenciennes) Günther, Fisch. Südsee, Heft vi. p. 203, pl. cxviii. f. c.

D. xiii 19. A. 21.

Depth of body $3\frac{3}{4}$, length of head $3\frac{7}{10}$ in the total length; width of head $\frac{1}{2}$, depth of head $\frac{5}{8}$ in its length. Snout subvertical, feebly convex anteriorly, the upper jaw protruding, its length $1\frac{1}{3}$ times the diameter of the eye, which is 3 in the length of the head. Interorbital region concave, $2\frac{3}{4}$ in the diameter of the eye and $8\frac{1}{5}$ in the head. Cleft of mouth extending to the vertical from the middle of the eye. Nasal and orbital tentacles well developed, multifid; nuchal fringe composed of numerous slender, simple tentacles, extending nearly from opercle to opercle. Dorsal fin originating in advance of the base of the pectoral; third spine longest, $1\frac{2}{3}$ in the head and not quite so high as the anterior

rays : anal originating below the dorsal notch : inner ventral ray the longer, $\frac{5}{7}$ of the head and rather less than $\frac{1}{2}$ the distance between its origin and the anal : pectoral with 15 rays, the 12th the longest, reaching to the vertical from the vent, and as long as the head : caudal $3\frac{7}{8}$ in the head; caudal peduncle deep, $1\frac{2}{3}$ times its length behind the dorsal fin, and $4\frac{1}{5}$ in the depth of the body. Dark chocolate-brown, almost black, the abdomen somewhat lighter; head and anterior parts of the body with scattered bluish dots : anterior dorsal rays more or less fully tipped with white.

E t y m o l o g y :—*albus*, white; *apicalis*, at the apex, tipped : in allusion to the white extremity of the first dorsal fin.

D i s t r i b u t i o n :—Lord Howe Island : Samoa; Tonga; Society and Sandwich Islands.

Mr. King has sent me a single specimen 53 millimeters in length; specimens, however, measuring as much as 125 millimeters were obtained under stones at low water mark by Mr. Saunders in 1888 as recorded by the writer.* Although this is undoubtedly the fish figured by Günther under the name *Salarias variolosus*, I cannot agree with that author as to the identity of his species with that of Valenciennes. The latter gives the dorsal formula as $1\frac{2}{12}$, and states that the dorsal fin reaches to the caudal, while he makes no mention of the conspicuous white patch on the spinous portion of that fin, nor of the equally conspicuous fin-ribbed lips. In the latter case Günther is in accord with the French author in overlooking a character which is in fact generic. On account of this and certain other peculiarities I propose shortly to formulate a genus for the reception of *Salarias alboapicalis* and its allies.

BROTULIDÆ.

DIANCISTRUS, gen.nov.

Body oblong-elongate, compressed, enveloped in a loose wrinkled skin, which on the head conceals all traces of the membrane bones.

* Lord Howe Island, Fish. p. 62, 1889.

Scales moderate, cycloid, striated, deciduous. Lateral line obsolete. Head naked; muciferous cavities well developed. Mouth terminal, with wide oblique cleft; jaws subequal. Premaxillaries slightly protractile; maxillary exposed, spatulate, without odontoid process. No barbel nor cirri. Jaws with a band of villiform teeth, widest at the symphysis; premaxillaries with several pairs of strong, acute, conical teeth anteriorly behind the villiform teeth; mandible with a series of enlarged trenchant teeth, which are strongest and recurved along the sides; vomerine teeth in a broad suberescenscent band, the inner series consisting of enlarged, well separated teeth; palatine teeth in a broad, elongate band, the inner series similarly enlarged. Nostrils inconspicuous, in front of the eye. Eyes small, sublateral, anterior. Opercle with a small spine. Gill-openings wide; gill-membranes united in front, free from the isthmus; six branchiostegals; no pseudo-branchiæ; gill-rakers short, claviform, few in number. Vent in advance of the middle of the length. Genital papilla spine-like, provided with a pair of curved claspers. One dorsal fin, originating midway between the pectoral and the vent, and terminating a short distance from the caudal; anal originating about the middle of the body and united by membrane to the base of the caudal; dorsal and anal fins with the rays simple and hair-like, their bases enveloped in thick skin; ventrals contiguous, inserted a little in advance of the pectorals, each developed as a long filament of two distally coalescent rays; pectorals moderate, pointed, the middle rays the longest; caudal small, obtusely pointed.

Etymology:—*δῖς*, two; *ἄγκιστρον*, hook: in allusion to the pair of hooked appendages beside the genital papilla.

Distribution:—Lord Howe Island.

This genus differs from *Dinematichthys* in its strong dentition and in its double-rooted ventral filaments.

DIANCISTRUS LONGIFILIS, sp. nov.

D. 62. A. 48.

Depth of body 5, length of head 4 in the total length; width of head $\frac{5}{4}$ of its length, which is $2\frac{1}{8}$ in the distance between the

tip of the snout and the origin of the anal. Diameter of eye $8\frac{2}{3}$ in the length of the head and $2\frac{1}{3}$ in that of the snout, which is obtusely rounded, declivous, and twice as wide as long. Inter-orbital region convex, its width $3\frac{1}{4}$ in the length of the head. Maxilla extending well beyond the vertical from the posterior border of the eye, its length from the tip of the snout $\frac{3}{5}$ of that of the head, its width at the distal extremity $1\frac{2}{5}$ times the diameter of the eye. Gill-rakers $2+7$, the longest about $\frac{1}{2}$ a diameter of the eye. Distance of dorsal fin from tip of snout $\frac{1}{3}$, of anal fin slightly more than $\frac{1}{2}$ of the total length; posterior dorsal and anal rays the longest, about $\frac{2}{7}$ of the head: ventral filaments reaching to the vent, a little longer than the head: pectoral with 20 rays, $\frac{3}{4}$ of the head: caudal $1\frac{5}{6}$ in the head. Pale violet, with three well marked orange longitudinal bands; head uniform; fins pale yellow.

E t y m o l o g y :—*longus*, long; *filum*, a thread.

D i s t r i b u t i o n :—Lord Howe Island. A single specimen, 86 millimeters long.

GADIDÆ.

LOTELLA CALLARIAS, Günther.

As recorded in my account of the fishes of Lord Howe Island (Austr. Mus. Mem. No. 2, p. 70) there has been a specimen of *Lotella* from this island in the collection ever since 1882; but in such a bad state as to preclude the possibility of accurate identification. It is satisfactory, therefore, to be in a position to announce definitely that the species found at the island is identical with that of our own coast and not the New Zealand *L. rhacinus*.

